



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| In re U.S. Patent Application |) | |
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| SATO <i>et al.</i> |) | |
| |) | |
| Application 10/077,096 |) | Art Unit 1634 |
| |) | |
| Filed: February 14, 2002 |) | Examiner |
| |) | Sisson, Bradley L. |
| For: HYBRIDIZATION DEVICE |) | |
| |) | |
| Attorney Docket No. HIRA.0061 |) | |

Honorable Assistant Commissioner
for Patents
Washington, D.C. 20231

DECLARATION OF ONE SKILLED IN THE ART
UNDER 37 C.F.R. §1.132

Sir:

I, Keiichi SATO, an expert in the field of the invention claimed in the above identified application. I am at least of ordinary skill in the art of hybridization devices, that is the subject of this application, am a co-inventor with respect to the subject matter disclosed and hereby declare as follows:

I currently work for the Applicant, Hitachi Software Engineering Co. Ltd.. I received my BS degree at Department of Mechanical Engineering and Intelligent Systems in The University of Electro-Communications.

I have reviewed the above-referenced patent application and carefully considered the Examiner's rejection to the specification. It is my conclusion that the claim recitation "having exclusively freely mobile sample biopolymers therein" is fully supported by the Inventor's Declaration under 37 C.F.R. §1.132 as understood by one skilled in the art in view of the description pages 4-5. In particular, the result of "the sample biopolymer solution having exclusively freely mobile sample biopolymers therein" can be derived by one skilled in the art from the method described on pages 4-5, which does not include any step for fixing the sample biopolymers on the sheet such that the sample biopolymer solution does not immerse any sample biopolymers fixed on the sheet. As such, no new matter was introduced via the claim recitation.

Regarding Japanese Patent No. 2756474, or corresponding U.S. Pat. No. 6,013,372 A, and EP Pat. No. 0816466 A (page 5, paragraph 3 of the specification), they are referenced as background for making a thin film containing a photocatalyst semiconductor material formed over the entire surface of the silicone rubber sheet 2 while the photocatalyst semiconductor material is selected from a group consisting of TiO_2 , ZnO , SnO_2 , SrTiO_3 , WO_3 , Bi_2O_3 and Fe_2O_3 . It is believed that the references sufficiently *enable* one skilled in the art to make a thin film (i.e., a sheet) so as to apply the invention. The corresponding US patent was referenced for English readers. After reading the references, it would be apparent to one skilled in the art that the portion on col. 10, line 41 to col. 12 of the U.S. patent is especially relevant.

Regarding the § 112 rejection against the specification for not describing a reproducible procedure on page 10, paragraph No. 9, it is understood that claims 1 and 7 are being amended to recite that “the hollowed region faces towards the probe-biopolymer-fixed region when the sheet and the probe-biopolymer-fixed substrate are arranged in layers” to distinguish the invention from the prior art. It is further understood that the language has clarified that the sheet 12 is applied to cover a substrate 15 in layers such that the sample biopolymer in the sample solution held in the hydrophilic surface region of the sheet can hybridize with the probe biopolymers in a solution spotted thus fixed to the hydrophilic slide glass substrate (p. 3, last line to p. 4, line 4). Since the slide glass substrate is hydrophilic, the probe biopolymers in a solution can be carried by the substrate against gravity. Such a *reproducible* procedure allows the sample biopolymers in the sample biopolymer solution hybridize with the probe biopolymers fixed on the substrate.

I would like to pinpoint that the prior art device depicted in Figs. 6-7 merely teaches immobilizing target molecules on a slide glass, then spotting a sample solution thereon for hybridization. During the process, no plastic sheet is applied over the slide glass to seal (p. 5, line 4) the sample solution from evaporation as the invention.

Based on the relevant contents of the original disclosure, we contend that no new matter is being introduced into the application through the submission of this response.

I hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine, or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the

above-captioned application and any patent to issue thereon.

Respectfully submitted this 9 day of February 2004

Keiichi Sato

Keiichi SATO